REMARKS

In the Office Action, the Examiner noted that claims 1 – 16 are pending in the application, and claims 1 – 16 are rejected. By this amendment, claims 1 – 5 have been cancelled, claims 6, 7, and 12 have been amended, and claim 17 has been newly added. The Examiner's rejections are traversed below.

AMENDMENT TO THE SPECIFICATION

By this amendment, the Applicant has corrected a typographical error in paragraph number 38 starting at page 8 of the specification. Entry of this amended paragraph is requested.

REJECTION UNDER 35 U.S.C. § 103(a)

Claims 1, 2, 5 – 7, and 12 – 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 4,404,594 to Hannan (hereinafter, "Hannan") and further in view of U.S. Patent 5,647,025 to Frost et al (hereinafter, "Frost").

By this amendment, claims 1, 2, and 5 have been cancelled, and claims 6, 7 and 12 have been amended.

The Applicant has amended claim 6 so that it is more clearly distinguished over Hannan and Frost. Specifically, the method claimed by the Applicant includes the step of "computing a composite image by combining each of the plurality of image using the spatial weighting." Hannan teaches that each image sample having the desired focus is "selected" or "chosen" so that a composite image is constructed using only the image samples having the best focus characteristics. Further, Frost teaches that the optimal focus setting can be determined using a high magnification scan of the surface of the object for various locations on the object. By contrast, the method claimed by the Applicant computes a composite image by combining each of the plurality of the acquired images. While Hannan combined with Frost teaches that the less-than-optimal focused images should be ignored or discarded, the method claimed by the Applicant computes a composite image using even the less-than-optimally focused image data (weighted according to the spatial weighting). Using the method of the claimed invention,

image detail from an acquired image is included in the computation of a composite image even if it is not optimally focused, which can be advantageous in a subsequent analysis using machine vision.

Accordingly, since none of the cited references, alone or in combination, disclose or suggest the Applicant's invention as recited in claim 6, or claims 7, 12, 13 and 14, that depend from claim 6, the Applicant respectfully submits that claims 6, 7, and 12 – 14 are allowable over the cited references.

Claims 3 and 4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hannan, and further in view of Frost and further in view of U.S. Patent 4,616,262 to Toriumi *et al* (hereinafter, "Toriumi").

Claims 3 and 4 have been cancelled by this amendment, rendering this rejection moot.

Claims 8 – 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hannan, and further in view of Frost and further in view of Kubota *et al*, IEEE Publication entitled "Inverse Filters for Reconstruction of Arbitrarily Focused Images from Two Differently Focused Images" (hereinafter, "Kubota").

Kubota teaches a method of reconstructing images having different focus to generate an arbitrarily focused image – i.e., a synthetic image at any of a desired focus setting having a realistic appearance. The Examiner cites Kubota for the proposition that its teachings can be used to solve the problem of blending regions of images using fuzzy transitions. Further, the Examiner cites the Applicants admissions in the specification that such methods are known in the art. While Kubota and the Applicants admissions suggest that methods exists for blending regions of images using fuzzy transitions, the examination of claims 8 – 11 must consider each claim *as a whole* (Graham v. John Deere Co., 148 USPQ 459, 476 (1966)). Hannan and Frost fail to teach or suggest the step of computing a composite image by combining each of the plurality of acquired images at different focus settings, and the teachings of Kubota, or the admissions in the Applicant's specification fail to cure this deficiency.

Because non of the cited references, alone or in combination, disclose or suggest the Applicant's invention as recited in any of the claims, the Applicant respectfully submits that claims 8 – 11 are allowable over the cited references.

Claims 15 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hannan, and further in view of Frost and further in view of U.S. Patent 4,404,594 to Palmquist et al (hereinafter, "Palmquist").

Palmquist discloses a method of inspecting defects in optical fiber end faces, and teaches that an optimal focus position can be empirically derived from a focus function based on a sharpness measurement at the ferrule portion of the fiber. Palmquist, Hannan, or Frost, either alone or in combination, fail to teach or disclose the step of combining each of a plurality of acquired images at different focus settings, as claimed by the Applicant.

Nothing in Palmquist cures the deficiencies of Hannan and Frost cited herein before. Because non of the cited references, alone or in combination, disclose or suggest the Applicant's invention as recited in any of the claims, and because there is nothing to suggest any motivation to combine these references in the manner suggested by the Examiner, the Applicant respectfully submits that claims 15 and 16 are allowable over the cited references.

REJECTION UNDER 35 U.S.C. § 102(b)

Claims 6, 7, and 12 – 14 are rejected under 35 U.S.C § 102(b) as being anticipated by Frost. The Applicant respectfully asserts that the claims, as amended, are not anticipated by Frost.

Claims 6, 7, and 12-14 each require the step of computing a composite image of the object by combining each of the plurality of images using the spatial weighting. Frost does not teach or suggest how a composite image can be computed, but merely teaches that a focus score, along with the associated focus position (location on the object) can be used to generate a model of the focused surface of the object. Frost merely teaches that a model of the object surface – analogous to a roadmap – can be determined so that a subsequent inspection can be readily performed by consulting the model.

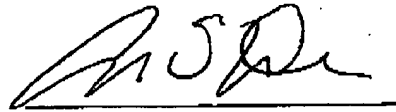Since the method claimed by the Applicant in claims 6, 7, and 12 – 14 is not disclosed by Frost, the claims are patentably distinguished over the prior art. Accordingly, the Applicant requests that the rejection be withdrawn.

CONCLUSION

In view of the above remarks, Applicant respectfully requests withdrawal of all rejections and allowance of the claims pending in the application. The Examiner is invited to telephone the undersigned Applicant's Attorney to facilitate advancement of the present Application.

Respectfully submitted,

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